MULTIMEDIA UNIVERSITY

STUDENT ID NO

TABLE NO: _____

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 3, 2015/2016

TIS2351/THI3461 – HUMAN COMPUTER INTERACTION

(All sections / Groups)

2nd JUNE 2016
2.30PM – 4.30PM
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 16 pages with Part A and Part B.
2. Attempt **ALL questions in Part A and Part B**. All questions carry equal marks and the distribution of the marks for each question is given.
3. Please print all your answers in the answer boxes provided.

PART A: Answer ALL questions (30 marks)
Write down ONE best answer in the answer box provided

Answer

Q1 - Choose the best definition of Interaction Design according to the lecture: [ ]

A) Interaction design is fundamentally about the laws of nature, working of design and evaluates the natural design.
B) Interaction design consists of the users and the ways how people communicate and work together in their everyday and working lives.
C) Designing interactive products to support the way people communicate and interact in their everyday and working lives.
D) Designing interactive products that support computer software that are capable of intelligent behavior.

Q2 - Which of the following is NOT a contributing academic discipline that concerned with interaction design? [ ]

A) Informatics.
B) Software Engineering.
C) Ergonomics.
D) Product Design.

Q3 - Utility is one of the usability goals that _____: [ ]

A) Refers to the extent to which the product provides the right kind of functionality so that users can do what they need or what to do.
B) Refers to how easy a product is to remember how to use, once learned.
C) Refers to the way a product supports users in carrying out their tasks.
D) Involves protecting the user from dangerous conditions and undesirable situations.

Continued .....

Answer

Q4 - Affordance is one of the design principles that _____: [ ]

A) Refers to designing interfaces to have similar operations and use similar elements for achieving similar tasks.
B) Refers to an attribute of an object that allows people to know how to use it.
C) Refers to sending back information about what action has been done and what has been accomplished, allowing the person to continue with the activity.
D) Refers to restricting interaction to reduce errors.

Q5 - The following are pre-requisite to understanding problem space EXCEPT _____: [ ]

A) Identifying usability.
B) Identifying user experience goals.
C) Make explicit assumptions and claims.
D) Make implicit assumptions and claims.

Q6 - Which one of the following is NOT the benefits of conceptualizing the design space early? [ ]

A) It enables the design team to ask specific kinds of questions about how the conceptual model will be understood by the targeted users.
B) It prevents the design team from becoming narrowly focused early on.
C) It is a driving force that supports the chance of misunderstanding and confusion arising later on.
D) It allows the design team to establish a set of common terms that all can understand and agree upon.

Continued .....

Answer

Q7 - An example of metaphors and analogies that convey to people how to use it for an activity, is _____: [ ]

A) Saving.
B) Bookmarking.
C) Revisiting.
D) Organizing.

Q8 - Relationship is one of the components of conceptual model, and can best be described as _____: [ ]

A) How to convey to people in understanding what a product is for and how to use it for an activity.
B) The mappings between the concepts and the user experience the product is designed to support or invoke.
C) How people are exposed to through the product, including the task-domain objects they create and manipulate, their attributes, and the operations that can be performed on them.
D) Whether one object contains another, the relative importance of actions to others, and whether an object is part another.

Q9 - Interaction design is not a product, however it can be referred to _____: [ ]

A) A product of the process that requires as strategy, organization, concept generation.
B) A goal-directed problem solving activity informed by intended use, target domain, materials, cost, and feasibility.
C) A product-directed problem solving activity that requires the mental representations of the problem, known as the problem space.
D) A goal-directed problem solving process informed by metaphors, mappings and analogies of the product design.

Continued .....

Answer

Q10 – Descriptions of degree of users' involvement are <u>false</u> EXCEPT: [ ]
A) Full time refers to patchy input, and very stressful.
B) Short term refers to inconsistent across project life.
C) Long term refers to constant input, but loses touch with users.
D) Part time refers to consistent, but loses touch with users.

Q11 - User-centered approach is based on _____: [ ]
A) Empirical measurement and waterfall design.
B) Iterative design and theoretical measurement.
C) Theoretical and empirical measurement.
D) Early focus on users and tasks and empirical measurement.

Q12 - The advantages of integrating interaction design with agile software development are as follows EXCEPT: [ ]
A) It champions early and regular feedback.
B) It handles non emergent requirements.
C) It stresses the importance of iteration.
D) It aims to strike a balance between flexibility and structure.

Q13 - Cognitive processes are important in Human Computer Interaction because it _____: [ ]
A) Takes into account social processes involved and emotional limitations of users.
B) Restrict theories, modelling tools, guidance and methods that can lead to the depreciation of products.
C) Provides knowledge about what products can and cannot be expected to do.
D) Identifies and explains the nature and causes of problems users encounter.

Continued .....

Answer

Q14 - Problem-solving, planning, reasoning and decision-making are cognitive processes that _____: [ ]

A) Enable us to be selective in terms of the mass of competing stimuli but limits our ability to keep track of all events.
B) Enable information to be acquired from the world and transformed into experiences.
C) Enable coding and then retrieving knowledge.
D) Enable conscious processes, discussion with others (or oneself), and the use of artefacts.

Q15 - Memory is a cognitive process that _____: [ ]

A) Enable us to be selective in terms of the mass of competing stimuli but limits our ability to keep track of all events.
B) Enable information to be acquired from the world and transformed into experiences.
C) Enable coding and then retrieving knowledge.
D) Enable conscious processes, discussion with others (or oneself), and the use of artefacts.

Q16 - Designing an interactive product for learning purpose requires an interaction designer to focus on _____ : [ ]

A) Designing interfaces that encourage exploration.
B) Designing interfaces that does not constrain and guide learners.
C) Designing static linking concepts and representations.
D) Designing interfaces that facilitate the learning of simple material.

Continued .....

Answer

Q17 - According to Sacks et al. (1978), conversation analysis requires three basic rules as follows: [ ]

A) (Rule-1) The current speaker person decides to start speaking, (Rule-2) another speaker chooses by asking an opinion, question, or request, and (Rule-3) the current speaker continues talking.

B) (Rule-1) The current speaker person decides to continue talking, (Rule-2) another speaker chooses by asking an opinion, question, or request, and (Rule-3) the current speaker starts speaking.

C) (Rule-1) The current speaker chooses the next speaker by asking an opinion, question, or request, (Rule-2) another person decides to start speaking and (Rule-3) the current speaker continues talking.

D) (Rule-1) The current speaker person decides to start speaking, (Rule-2) another speaker continues talking, and (Rule-3) the current speaker chooses by asking an opinion, question, or request.

Q18 - Examples of implicit cues in conversation are follows EXCEPT: [ ]

A) Using cough.

B) Texting bye bye.

C) Blink an eye to a stranger.

D) Lifting both eye brows.

Q19 - Shareable technologies can BEST be described as one of the following: [ ]

A) They provide single-user PCs better opportunities.

B) They are used to support co-located users.

C) They are used to support telepresence users.

D) They provide nonsynchronous interaction with digital content.

Q20 - The difference between flat menus and expanding menus is that _____: [ ]

A) Expanding menus enables more options to be shown on a single screen than is possible with a single flat menu.

B) Flat menus are more flexible navigation, allowing for selection of options to be done in the same window.

C) Expanding menus are good at displaying a small number of options at the same time and where the size of the display is small.

D) Flat menus enables cascading navigation.

Continued .....

Answer

Q21 - The following sentence BEST describes Multimedia as one of the interfaces types EXCEPT: [ ]

A) Multimedia can provide better ways of presenting information than can any media alone.
B) Multimedia can encourage users to explore different parts of a game or story.
C) Multimedia can disable learning ability, understanding, lower engagement, and less pleasure.
D) Multimedia can facilitate rapid access to multiple representations of information.

Q22 - One of the disadvantages of Touch, as one of the interfaces types is that _____: [ ]

A) It cannot be used for Smartphones, iPods, tablets and tabletops.
B) It offers single-touch support from a range of more dynamic fingertip actions.
C) It cannot detect the presence and location of a person's touch on the display such as the walk-up kiosks.
D) It is more cumbersome, error-prone and slower to type using a virtual keyboard on a touch display than using a physical keyboard.

Q23 - The basic building blocks of WIMP/GUI are _____: [ ]

A) Flat menus, expanding menus and contextual menus.
B) Windows, menus, icons and pointing devices.
C) Icons, keyboard shortcuts and pop-up/predictable text command.
D) Scenario, persona and use-case.

Continued .....

Answer

Q24 - The difference between Augmented Reality and Mixed Reality is that _____: [ ]

A) Augmented reality is the virtual representations that apply vibration and forces to a person's body, while mixed reality uses actuators that are embedded in their clothing or a device they are carrying.
B) Augmented reality is the virtual representations that direct dialogs, while mixed reality is where the system is in control of the conversation.
C) Augmented reality is the virtual representations that are superimposed on physical devices and objects, while mixed reality is the views of the real world are combined with views of a virtual environment.
D) Augmented reality is the virtual representations that concern with how best to structure information to enable users to navigate and access it easily and quickly, while mixed reality is the design information for how to create multi-platforms.

Q25 - Command-based interface can be described as follows EXCEPT: [ ]

A) The key research questions are form, name types and structure.
B) It facilitates rapid access to multiple representations of information.
C) Consistency is the most important design principle.
D) It is popular for web scripting.

Q26 - The goals of interaction design are to develop usable products and involve designers in design process. [ ]

A) True
B) False

Q27 - According to Johnson and Henderson (2002, pp.26), a conceptual model is a low-level description of how a system is organized and operates. [ ]

A) True
B) False

Continued .....

Answer

Q28 - Interaction design is a product that consists of a goal-directed problem solving activity informed by intended use, target domain, materials, cost, and feasibility. [ ]

A) True
B) False

Q29 - Dynamics icons, animations and vibrotactile feedback are some of the examples of expressive feedback. [ ]

A) True
B) False

Q30 - Contextual inquiry is an approach where the user is the apprentice while the designer is the expert. [ ]

A) True
B) False

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PART B: Answer ALL questions
Write down your answer in the answer box provided

QUESTION 1 (10 marks)

Read the two scenarios below and answer the questions that follow:

Scenario 1:
A usability consultant joins a group of Swedish tourists who have been given a wearable navigation device that fits onto a wrist strap to test on a visit to Langkawi Island, Malaysia. After sightseeing for the day, they use the device to find a list of sourvenir shops within a two-kilometer radius of their current position. Several are listed and they find the telephone numbers of a couple, call them to ask about their souvenir selections, select one, find the location and head off to the souvenir shop. The usability consultant observes some difficulties operating the wearable navigation device, especially on the move. Discussion with the tourists shows that there are problem with the interface design, but the certain functions are useful, for example, they are able to find particular T-Shirt sizes that have printed Langkawi Island's photos.

Scenario 2:
A usability consultant observes how participants perform a series of task using a wearable navigation device in a research laboratory in the Faculty of Informatics, Multimedia University. The task requires the participants to find the particular size of T-Shirt of a souvenir shop called Souvenir Cybershop. It takes them several minutes to do this and appear to have problem. The video recording and interaction log suggest that the interface is very complicated and the audio interaction is of poor quality.

A) Identify the names of two (2) data gathering techniques used in Scenario 1 and 2. (2 marks)
B) Explain two (2) advantages and two (2) disadvantages of these two data gathering techniques. (4 marks)
C) Explain the two (2) situations in which these two data gathering techniques are useful. (4 marks)

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Answer:

Continued .....

QUESTION 2 (10 marks)

A) Explain two (2) advantages of developing prototype. (2 marks)
B) Produce a storyboard that consists of six (6) to eight (8) series of sketches on how a staff or student can choose food from a cafeteria and pay via smartphone. (4 marks)
C) Develop a card-based prototype that consists of six (6) to eight (8) series of cards for renting a movie based on the following use case. (4 marks)

The use case for "Rent Movie" as follows:

1. The system displays a menu of choices.
2. The user chooses to see a list of movies by director.
3. The system displays a list of directors.
4. The user looks through the list to locate required director.
5. The system displays a list of movies directed by names director.
6. The user chooses the required movie.
7. The system prompts for username and password.
8. The user enters her username and password.
9. The system verifies the user's password.
10. The system displays the user's default rental and payment options.
11. The user confirms the default options.
12. The system provides a link down for downloading the movie.

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Answer:

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Answer:

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Answer:

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